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Cooperative
**ECONOMIC INSECT
REPORT**

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SEP 26 1968

CURRENT SERIAL RECORDS

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

CORN EARWORM heavy in field corn in southwest Indiana and in soybeans throughout Georgia. (p. 895).

Second-generation EUROPEAN CORN BORER heaviest in corn in many years in Indiana. SORGHUM WEBWORM heavy on sorghum in Love and Nowata Counties, Oklahoma; damaging sorghum in north-central and eastern Texas. (p. 896).

GREEN CLOVERWORM and ALFALFA CATERPILLAR continue heavy on alfalfa throughout Wisconsin. (p. 897).

GREEN CLOVERWORM severely defoliated soybeans in southeastern Kansas. MEXICAN BEAN BEETLE heavily damaged several hundred acres of soybeans in Wicomico and Somerset Counties, Maryland. (p. 899).

BOLL WEEVIL square and boll damage heavy in north-central Texas. BOLLWORM damage heavy in Wichita and Childress Counties of same State. (p. 899).

CABBAGE LOOPER still troublesome on crucifers throughout New Jersey; difficult to control on cabbage in Wisconsin. (p. 900).

CODLING MOTH larvae heavy in apples in Yolo County, California. (p. 901).

PALMERWORM defoliation heavy on forest and shade trees in areas of Ohio. (p. 904).

HORN FLY heavy on cattle in Palm Beach County, Florida, and in Sully and Potter Counties, South Dakota. (p. 906).

Detection

New State records include a JAPANESE WEEVIL in Indiana (p. 904), BOXELDER PSYLLID in Maryland (p. 905), and a NOCTUID MOTH in Delaware (p. 908).

For new county, parish, and island records see page 908.

Special Reports

Survey Methods. Selected References 1957. Part X (pp. 911-914).

Japanese Beetle Quarantine Map. Centerfold.

Reports in this issue are for week ending September 13 unless otherwise indicated.

CONTENTS

Special Insects of Regional Significance.....	895
Insects Affecting	
Corn, Sorghum, Sugarcane.....	896
Small Grains.....	897
Turf, Pastures, Rangeland.....	897
Forage Legumes.....	897
Soybeans.....	899
Cotton.....	899
Sugarbeets.....	900
Potatoes, Tomatoes, Peppers.....	900
Beans and Peas.....	900
Cole Crops.....	900
Beneficial Insects.....	907
Federal and State Plant Protection Programs.....	907
Insect Detection.....	908
Corrections.....	908
Hawaii Insect Report.....	909
Light Trap Collections.....	910
Survey Methods. Selected References 1957. Part X.....	911
Japanese Beetle Quarantine Map. Centerfold.	

WEATHER BUREAU'S 30-DAY OUTLOOK

MID-SEPTEMBER TO MID-OCTOBER 1968

The Weather Bureau's 30-day outlook calls for temperatures to average below seasonal normals over most of the area lying between the Appalachians and the Rockies except for near to above normal along the northern border States. Above normal temperatures are expected in the Pacific Coast States. Except for below normal temperatures over eastern New England near normal averages are expected to prevail elsewhere. Precipitation is predicted to exceed normal over most of the central portion of the Nation lying between the Rockies and the Appalachians and also along immediate coastal regions from Hatteras to southern New England. Subnormal amounts are indicated over the Far Southwest and part of the extreme Southeast. In other areas near normal rainfall is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price \$5.00 a year.

WEATHER OF THE WEEK ENDING SEPTEMBER 16

HIGHLIGHTS: Fair, sunny weather in West most of week and in eastern part latter half. Little rain west of Great Plains. Heavy precipitation in most areas of Gulf States and East.

PRECIPITATION: During the first three days of the week a frontal system, moving eastward from the Mississippi Valley, produced moderate to heavy rainfall, rather generally from lower Mississippi Valley and upper Ohio Valley to the Atlantic coast. Unusually heavy amounts were reported from northern Virginia into southeastern Pennsylvania with up to six inches measured in the Baltimore, Maryland, and Washington, D.C., areas. Little or no rain fell in eastern Alabama, however, and only very light amounts in the Florida Panhandle where moderate drought continues. A weakening tropical storm from the Pacific brought rain into the western gulf region during the weekend. A cold front in northwestern Washington early in the week reached the Great Plains by the end of the period. Rainfall along the front was mostly light and scattered. Weekly totals in the western Great Lakes and upper Mississippi Valley, the central and upper Great Plains, and Far West ranged mostly from none to a few hundredths, with amounts over an inch limited mainly to eastern portions of South Dakota and Nebraska and the north Pacific coast. Weather continued on page 909.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

GREENBUG (*Schizaphis graminum* (In broad sense))* - ARIZONA - Remains heavy in untreated sorghum field at Bowie, Cochise County. Heavy buildup in early August caused severe damage during remainder of month in many sorghum fields in county. This aphid rare in State; such heavy numbers even rarer. (Ariz. Coop. Sur.).
COLORADO - Very light on sorghum in northeastern area. Negative in fields checked. (Johnson). **KANSAS** - None found in sorghum examined in Haskell, Seward, Stevens, Grant, and Kearney Counties or on wheat in Thomas, Scott, Haskell, Stevens, Grant, and Kearney Counties. (Simpson).

ARMYWORM (*Pseudaletia unipuncta*) - NORTH DAKOTA - Third instars evident in swathed grain in Golden Valley County; may be problem in this area in 1969. (McBride).

CORN EARWORM (*Heliothis zea*) - MARYLAND - Moths averaged 2 per night in blacklight collections at Centreville, Queen Annes County. Early instars averaged 1 per row foot in soybeans on lower Eastern Shore. (U. Md., Ent. Dept.). **VIRGINIA** - Larvae averaged 1-2 per row foot in many soybean fields; no severe damage detected. (Allen, Ptucha). **INDIANA** - Early to middle instars heavy, 1-4 per ear, on 60-100 percent of late field corn in southwest district. Infestations spotty throughout rest of State; up to 50 percent in occasional central area field. (Huber). Early instars infested 58 percent of field of late sweet corn in Tippecanoe County. (Gould). **MICHIGAN** - Moth collections increasing, particularly in Lenawee County blacklight station where weekly total 23. First 2 moths of season in Montcalm County September 1. Larvae still problem on silking sweet corn. (Newman, Janes). **WISCONSIN** - *H. zea* and *Ostrinia nubilalis* causing many problems for some canning companies. *H. zea* infested 1 out of 10 ears in Bayfield County. Problems expected next few weeks as larvae enter ears. (Wis. Ins. Sur.). **GEORGIA** - Heavy in many soybean fields over State. (Jordan). **ALABAMA** - Larvae much more of threat to soybeans last 10-15 days. Numerous enough for control in Autauga, Covington, Macon, Elmore, Dallas, Lauderdale, Bibb, Talladega, and Madison Counties. Heaviest in Dallas, Autauga, Elmore, and Macon Counties. Negative in some soybeans in each county. (Scott et al.). **MISSISSIPPI** - Larvae averaged over one per 3 row feet on 5 Quitman County soybean farms; pod damage moderate. Averaged 1 per 2 row feet on 50 acres of soybeans in Yazoo County; pod damage moderate, treatment applied. (Dinkins). **TEXAS** - Light to medium on late-planted grain sorghum near Pittsburg, Camp County. (Cates, Green). **OKLAHOMA** - Counts ranged 1-5 per head in sorghum in Ellis County; light in sorghum in Garvin County. (Okla. Coop. Sur.). **KANSAS** - Averaged 2-4 per head on sorghum in Neosho County. Infestations almost 100 percent in corn examined in Haskell, Stevens, and Grant Counties. Heavier in most areas in 1968 than in past 2 years. (Simpson).

CORN LEAF APHID (*Rhopalosiphum maidis*) - KANSAS - Light in corn and sorghum in Haskell, Seward, Stevens, Grant, and Kearney Counties. Averaged less than 25 per plant on 10 percent of sorghum plants. (Simpson). **ALABAMA** - Maize dwarf mosaic and/or corn stunt virus much worse in corn in Cleburne County than in any past year. (Ventress).

PICKLEWORM (*Diaphania nitidalis*) - GEORGIA - Severe on Spalding County summer squash. (Dupree).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - WISCONSIN - Apparently increasing in alfalfa, but somewhat more slowly than pea aphid in southern third of State. (Wis. Ins. Sur.). **IOWA** - Negative in alfalfa checked in southwest area. (Iowa Ins. Sur., Sept. 6). **SOUTH DAKOTA** - Less than 5 per 100 sweeps on alfalfa south of Webster, Day County; near Reville, Grant County; and west of Wilmot, Roberts County. These are new county records. (Jones). **NEBRASKA** - Ranged 0-18 (average 8.3) per 100 sweeps in established Dawson County alfalfa stands. Ranged 0-25

* According to recent taxonomic studies by L.M. Russell. This aphid on sorghum appears to be this species.

(average less than 1) per 100 leaves on 6 to 8-inch high alfalfa seedlings. Threat of damage past. (Manglitz). WYOMING - Ranged 0-150 (average 20) per 100 sweeps in alfalfa in Goshen, Platte, and Laramie Counties. (Parshall). ARIZONA - Averaged 30 per 100 sweeps in alfalfa at Yuma, Yuma County. (Ariz. Coop. Sur.). OREGON - Found in several alfalfa fields in Hermiston and Stanfield areas, Umatilla County. Mostly alates averaged 1-5 per sweep in field at Hermiston. Negative in fields in surrounding counties. (Westcott).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - NORTH DAKOTA - Plant infestations ranged 12-60 (average 31) percent in corn in Barnes County; larvae 12-336 (average 122) per 100 plants. Some second-brood larvae evident in county. (Kaatz). INDIANA - Second generation heaviest in corn in many years. Infestations ranged 40-100 percent in milk to early dent-stage corn in west-central, central, southwest, and south-central districts. Mostly fifth instars ranged 1-9 per plant; heaviest in southwest district. Stalk breakage averaged 30 percent in most heavily infested fields. (Huber). MICHIGAN - Limited moth emergence past week at Lenawee, Newaygo, and Montcalm County blacklight stations. Highest collection (77) at Montcalm County trap September 1. Continued emergence at Lenawee County station trap past week. Collected 70 moths (60 males) August 31. Sporadic emergence August 29 to September 5, excluding September 1. Ranged from 2 August 29 to 36 September 3. Ranged 0-16 at Newaygo County blacklight station for same period. (Newman). MARYLAND - Moths averaged 11+ per night in blacklight collections at Centreville, Queen Annes County. (U. Md., Ent. Dept.).

SORGHUM WEBWORM (Celama sorghiella) - OKLAHOMA - Ranged up to 100 per head in grain sorghum in Marshall County; averaged 10 per head in Tillman County. Heavy in Love and Nowata Counties; moderate in Mayes and Ottawa Counties; light in Garvin County. (Okla. Coop. Sur.). TEXAS - Damaging late-planted grain sorghum in north-central and eastern areas. (Turney, Cates).

FALL ARMYWORM (Spodoptera frugiperda) - OKLAHOMA - Heavy on sorghum terminals in Noble County. (Okla. Coop. Sur.).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - COLORADO - Larvae heavy on most corn plants in Yuma area, Yuma County. (Pilcher).

GRASSWORMS (Mocis spp.) - FLORIDA - Almost destroyed 40 acres of sorghum on ranch at Belle Glade, Palm Beach County; additional 200 acres infested. Treatment recommended. Det. and collected by W.G. Genung. (Genung).

CORN ROOTWORMS (Diabrotica spp.) - ILLINOIS - D. virgifera collected in corn in Putnam, Marshall, Kendall, Kane, Boone, McHenry, Tazewell, Schuyler, Cass, and Pike Counties for new county records. (Ill. Ins. Rpt.). SOUTH DAKOTA - Diabrotica spp. very light in corn in north-central area. D. virgifera adults less than one per 100 stalks in cornfield east of Mound City, Campbell County. This is a new county record. (Jones). KANSAS - D. longicornis adults collected on corn in August in Jewell and Republic Counties for new county records. (Wilde). WASHINGTON - D. undecimpunctata undecimpunctata larvae infested corn seedling roots in Clark County. (Retan, Wessler, Sept. 6).

CORN SAP BEETLE (Carpophilus dimidiatus) - TEXAS - Heavy in late-planted corn near Pittsburg, Camp County. (Cates, Green).

A WEEVIL (Anacentrinus deplanatus) - TEXAS - Heavy on sorghum at Whitewright; lodging begun in grain sorghum. (Turney).

LYGUS BUGS (Lygus spp.) - ARIZONA - Averaged 100 per 100 sweeps in sorghum at Casa Grande, Pinal County. (Ariz. Coop. Sur.).

FALSE CHINCH BUG (Nysius ericae) - NEW MEXICO - Damaged grain sorghum heads on field margins at Lovington, Lea County. (Mathews).

SAY STINK BUG (Pitedia sayi) - ARIZONA - Still light in sorghum in Graham and Cochise Counties. (Ariz. Coop. Sur.).

SORGHUM MIDGE (Contarinia sorghicola) - ARIZONA - Scattered infestations appearing in sorghum heads in Cochise County. (Ariz. Coop. Sur.).

SMALL GRAINS

RICE STINK BUG (Oebalus pugnax) - MISSOURI - Mostly adults averaged 27 per 10 sweeps in rice in Butler County. (Hanning, Huggans).

TURF, PASTURES, RANGELAND

GRASSWORMS (Mocis spp.) - FLORIDA - Heavy on 300 acres of Para grass on ranch near Belle Glade, Palm Beach County. Det. and collected by W.G. Genung. (Genung).

A MARCH FLY (Dilophus orbatus) - CALIFORNIA - Adults heavy on lawns in San Bruno and Millbrae, San Mateo County, and San Leandro, Alameda County. This species unusually prevalent last 2-3 years. (Cal. Coop. Rpt.).

A DARKLING BEETLE (Pelecyphorus densicollis) - WASHINGTON - Extremely heavy on rangeland for about 5 miles along State Highway 12 near Pasco, Benton County. (Thomas, Nonini).

BLACK BLISTER BEETLE (Epicauta pennsylvanica) - UTAH - Numerous on rabbitbrush blossoms in some Tooele County areas. (Knowlton, Sept. 13).

YELLOW SUGARCANE APHID (Sipha flava) - FLORIDA - Averaged about 20 per 10 leaf blades on several experimental bristlegrasses at laboratory in Indian River, St. Lucie County; much lighter on Rhodes grass and other grasses in same area. Det. and collected by W.G. Genung. (Genung).

A GROUND PEARL (Margarodes meridionalis) - ARIZONA - Heavy in Tifgreen Bermuda grass of golf courses at Phoenix and Scottsdale, Maricopa County; all stages present. (Ariz. Coop. Sur.).

FORAGE LEGUMES

GREEN CLOVERWORM (Plathypena scabra) - INDIANA - Larvae ranged 6-15 per sweep on alfalfa in southwest district; up to 10 percent of terminals stripped; 25 percent of larvae collected parasitized. (Huber). MICHIGAN - Collections (85 moths) at Lenawee County blacklight station still higher than all other stations combined; 34 moths collected August 31. Collections at Montcalm County station past week totaled 11. (Newman). WISCONSIN - This species and Colias eurytheme (alfalfa caterpillar) continue heavy on alfalfa statewide; averaged about 3 per sweep. Virus killing many larvae but moths still numerous; infestation expected to continue. (Wis. Ins. Sur.). MISSOURI - All instars averaged 170 per 10 sweeps in alfalfa in east-central area. (Hanning, Huggans). IOWA - Occasional last instar collected from alfalfa and clover in south-central and southwest areas. (Iowa Ins. Sur., Sept. 6).

CABBAGE LOOPER (Trichoplusia ni) - ARIZONA - Averaged 100 per 100 sweeps in alfalfa at Casa Grande, Pinal County. (Ariz. Coop. Sur.).

ALFALFA CATERPILLAR (Colias eurytheme) - WYOMING - Larvae ranged 0-9 (average 4) per 100 sweeps in alfalfa in Platte, Goshen, and Laramie Counties. (Parshall). NEW MEXICO - Generally light in alfalfa in Dona Ana County; increasing in

isolated fields. (Campbell). VIRGINIA - Larvae 5 per 100 sweeps on Augusta County alfalfa. (Hendrick).

ALFALFA WEEVIL (Hypera postica) - VIRGINIA - Larvae 5 per 100 sweeps in alfalfa in Augusta County; 30 percent of larvae parasitized by Tetrastichus incertus (a eulophid wasp). (Hendrick). INDIANA - Larvae ranged 1-3 per 5 sweeps and mating adults averaged 1 pair per 5 sweeps on alfalfa in southeast district. This district had heaviest early season populations in State. (Huber). MICHIGAN - Ranged 8-17 per 200 sweeps in Lenawee and Monroe County alfalfa. Larvae per 200 sweeps ranged from 26 in third-cutting to 81 in second-cutting regrowth in same fields. (Newman, Sept. 9). NEBRASKA - Negative in 11 Dawson County alfalfa fields; one larva and 4 adults taken in 200 sweeps in alfalfa field near Gothenburg. (Manglitz). WYOMING - Adults per 10 sweeps averaged 20 in first-growth alfalfa field and 1 in 2 second-growth fields near Farson, Sweetwater County. (Spackman). Adults per 100 sweeps averaged 12 in third-growth alfalfa in Platte County and 2 in Goshen and Laramie Counties. Few larvae still present. (Parshall). OREGON - Adults 2 per 50 sweeps in alfalfa field near Vale, Malheur County. (Westcott).

CLOVER ROOT CURCULIO (Sitona hispidulus) - MICHIGAN - High in all Monroe and Lenawee County clover fields; ranged 178-243 per 200 sweeps in 5 fields. (Newman, Sept. 9).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - WYOMING - Adults averaged 5 per 100 sweeps in 7 alfalfa fields in Goshen and Laramie Counties. (Parshall).

BLACK BLISTER BEETLE (Epicauta pennsylvanica) - IOWA - Averaged 1+ per sweep on alfalfa and red clover in south-central and southwest areas. (Iowa Ins. Sur., Sept. 6).

PEA APHID (Acyrtosiphon pisum) - OREGON - Severe outbreak in alfalfa field near Hermiston, Umatilla County, during August completely controlled by parasites in 2 weeks. (Bierman). WYOMING - Nymphs and adults ranged 150-18,000 per 100 sweeps in third-growth alfalfa in Platte, Goshen, and Laramie Counties; heaviest count in stunted and yellowed alfalfa field in Platte County. (Parshall). COLORADO - Light in third-cutting alfalfa in northeastern and southwestern areas. (Johnson, Bulla). NEW MEXICO - Generally light on Dona Ana County alfalfa. (Campbell). NEBRASKA - Ranged 0-212 (average 61) per 100 sweeps on Dawson County alfalfa. (Manglitz). IOWA - Very low, averaged less than 5 per sweep on alfalfa and red clover in south-central and southwest areas. (Iowa Ins. Sur., Sept. 6). WISCONSIN - General increase in all alfalfa surveyed across southern third of State; ranged 10-30 per sweep depending upon stage and vigor of alfalfa. (Wis. Ins. Sur.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Continues problem in alfalfa in Milburn area, Johnston County. Averaged 7 per 10 sweeps in alfalfa in Cotton County. (Okla. Coop. Sur.). ARIZONA - Average per 100 sweeps in alfalfa by county: Cochise, 125 at San Simon; Yuma, 80 at Yuma. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - OREGON - Mostly early instars averaged 28 per sweep in alfalfa field 10 miles east of Vale, Malheur County. Plants 3 feet high in early bloom. Similar numbers in field at Mt. Vernon, Grant County. (Westcott). ARIZONA - Average per 100 sweeps in alfalfa by county: Pinal, 150 at Casa Grande; Yuma, 77 at Yuma. (Ariz. Coop. Sur.). WYOMING - Averaged 25 per 100 sweeps in alfalfa in Platte, Goshen, and Laramie Counties. (Parshall).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - WYOMING - Adults and nymphs ranged 5-80 (average 22) per 100 sweeps in alfalfa in Platte, Goshen, and Laramie Counties. (Parshall).

A FLEAHOPPER (Spanogonicus albofasciatus) - ARIZONA - Averaged 15 per 100 sweeps in alfalfa at San Simon, Cochise County. (Ariz. Coop. Sur.).

SOYBEANS

GREEN CLOVERWORM (Plathypena scabra) - NEBRASKA - Defoliation heavy in one field near Geneva, Fillmore County. (Keith). KANSAS - Damage continues in southeastern area. Defoliation quite severe in many cases. (Simpson). OKLAHOMA - This species and Trichoplusia ni (cabbage looper) damaging soybeans in Noble County; defoliation averaged 50+ percent. (Okla. Coop. Sur.). ALABAMA - Numbers and feeding light on leaves in Talladega, Madison, and other counties. (Bass et al.). VIRGINIA - Light in Westmoreland and Richmond Counties. Many appeared diseased. (Allen, Ptucha).

A NOCTUID MOTH (Pseudoplusia includens) - FLORIDA - Widespread but noneconomic at Sanford, Seminole County. Det. and collected by G.L. Greene. (Greene).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ALABAMA - Damaging stems in isolated spots of some Madison County fields. (Magnusson, Bond).

MEXICAN BEAN BEETLE (Epilachna varivestis) - VIRGINIA - Damage severe in 30-acre field in Richmond County. Damage in Northern Neck area spotty and generally not severe except in few locations. (Allen). Defoliation not too severe as of September 11. Controls should have been applied to one or 2 fields earlier in season in Essex County. (Compton). MARYLAND - Damage heavy on several hundred acres in Allen and Eden area of Wicomico and Somerset Counties. Adults ranged up to 50 per row foot. (U. Md., Ent. Dept.).

GRASSHOPPERS - INDIANA - Melanoplus femurrubrum and M. differentialis defoliation up to 15 percent in some weedy fields in west-central and central districts. Adults ranged 0-2 per 3 row feet in fields and 3-9 per square yard on roadsides. M. femurrubrum 80 percent and M. differentialis 20 percent of population. Very light in southern third of State. (Huber).

SOUTHERN GREEN STINK BUG (Nezara viridula) - VIRGINIA - Averaged 100 per 100 row feet in 5-acre field in Westmoreland County. (Allen, Ptucha).

LYGUS BUGS (Lygus spp.) - ARIZONA - Averaged 24 per 100 sweeps in Kansas Settlement area of Cochise County. (Ariz. Coop. Sur.).

COTTON

BOLL WEEVIL (Anthonomus grandis) - SOUTH CAROLINA - Relatively light compared with bollworms at Florence. (Taft et al., Sept. 6). MISSISSIPPI - Activity light throughout most of delta area. Fresh punctures noted in 2 of 30 fields in Leflore, Tallahatchie, Quitman, and Coahoma Counties and in 7 of 15 fields in Yazoo County. (Dinkins). OKLAHOMA - Percent punctured squares averaged 11 in Tillman County and 15 in Payne County. Moderate in Garvin County and light in Marshall County. (Okla. Coop. Sur.). TEXAS - Square and boll damage heavy in Wilbarger, Hardeman, Childress, Knox, and Fisher Counties. (Boring).

BOLLWORMS (Heliothis spp.) - SOUTH CAROLINA - Caught 1,442 H. zea and 33 H. virescens in light trap during period at Florence; H. zea 13,761 and H. virescens 423 for year. (Taft et al., Sept. 6). MISSISSIPPI - H. zea and H. virescens infestations general in Yazoo County. Third or later instars in all 15 fields surveyed. Egg infestation not more than 2 percent in any field. Activity general with mostly third or later instars in late cotton in Quitman, Tallahatchie, Leflore, and Coahoma Counties. Eggs per 100 terminals ranged 0-30 in late cotton and less than 5 in older cotton. (Dinkins). OKLAHOMA - Percent H. zea fruit damage ranged 6-20 in Garvin County, 10-30 in Marshall County, and averaged 15 in Payne County. Averaged 3 per 100 terminals in Tillman County. (Okla. Coop. Sur.). TEXAS - H. zea damage heavy in Wichita and Childress Counties and medium in Knox, Collingsworth, and Wilbarger Counties. (Boring).

CABBAGE LOOPER (Trichoplusia ni) - SOUTH CAROLINA - Caught 17 moths in light trap during period at Florence; total to date 4,625. (Taft et al., Sept. 6). TEXAS - Damaging cotton in Jones County. (Boring). ARIZONA - Larvae averaged 1 per 10 plants in Cochise, Graham, and Maricopa Counties. (Ariz. Coop. Sur.).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Controls continue in Maricopa and Yuma Counties. Infested all fields west of Thatcher, Graham County. (Ariz. Coop. Sur.).

COTTON APHID (Aphis gossypii) - NEW MEXICO - Infestation in southern Dona Ana County could create problem if it continues to develop. Some honeydew on leaves. (Campbell). ARIZONA - Averaged 8 per plant in Stewart District, Cochise County. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - ARIZONA - Averaged 30 per 100 sweeps at Casa Grande, Pinal County. (Ariz. Coop. Sur.).

SUGARBEETS

BET WEBWORM (Loxostege sticticalis) - WYOMING - Larvae averaged 4 per 100 sweeps in Platte and Goshen Counties. (Parshall).

POTATOES, TOMATOES, PEPPERS

POTATO APHID (Macrosiphum euphorbiae) - WASHINGTON - Flight exceptionally heavy in Satus and Toppenish area, Yakima County, last of August and September 3. (Landis).

CABBAGE LOOPER (Trichoplusia ni) - DELAWARE - Larvae common and damage noticeable on many pepper plants in area of Sussex County. (Burbutis).

BEANS AND PEAS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - GEORGIA - Severe in seedling peas in Spalding County. (Dupree).

GREEN CLOVERWORM (Plathypena scabra) - WISCONSIN - This species and Colias eurytheme (alfalfa caterpillar) decreased on beans due to natural or chemical controls. Most infestations not severe on snap beans in Waushara County. (Wis. Ins. Sur.).

COLE CROPS

CABBAGE LOOPER (Trichoplusia ni) - NEW JERSEY - Eggs and larvae still troublesome on crucifers statewide. (Ins.-Dis. Newsltr.). GEORGIA - Moderate on Union County collards. (Scott, Harris). WISCONSIN - Most difficult year for control on cabbage. Insecticide dosage increase of 3 times ineffective. Bacillus thuringiensis gave excellent control for one grower. (Wis. Ins. Sur.).

IMPORTED CABBAGEWORM (Pieris rapae) - NEW JERSEY - Larvae still troublesome on crucifers statewide. (Ins.-Dis. Newsltr.).

STRIPED FLEA BEETLE (Phyllotreta striolata) - TEXAS - Probably this species on roots of mustards, turnips, and collards in Harris County; some crops severely damaged. (Kay).

CUCURBITS

A NOCTUID MOTH (Pseudoplusia includens) - TEXAS - Larvae heavy on watermelons near Plantersville, Grimes County. (Green).

GENERAL VEGETABLES

NOCTUID MOTHS - MICHIGAN - Feltia subgothica counts past week highest (1,405) at Montcalm County blacklight station; totaled 371 September 1 and 417 September 2. Collected 148 moths same period at Lenawee County station. Agrotis ipsilon, Amathes c-nigrum, and Peridroma saucia counts remained normal during period at all blacklight stations; ranged from 28 at Newaygo County station to 129 at Lenawee County station. (Newman).

CABBAGE LOOPER (Trichoplusia ni) - NEW MEXICO - Eggs heavy on lettuce in Dona Ana County; controls applied frequently. (Nelson).

ONION MAGGOT (Hylemya antiqua) - COLORADO - Damaging few onion fields in southwestern area during harvest. (Bulla).

ONION THRIPS (Thrips tabaci) - COLORADO - Well controlled on onions during summer in southwestern area. (Bulla).

EUROPEAN EARWIG (Forficula auricularia) - NEVADA - Heavy, severely damaged vegetable gardens in Jarbidge, Elko County. (Urdahl).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Carpocapsa pomonella) - CALIFORNIA - Larvae heavy in apples at Knights Landing, Yolo County. (Cal. Coop. Rpt.). COLORADO - Very few larvae or stings in well-sprayed pear orchards in Mesa and Delta Counties where harvest complete. Moths continued in sex attractant traps through September 1. Mostly light numbers, few late larval entries in apple orchards where no late cover spray applied. (Bulla). INDIANA - Adults decreasing in field at Vincennes; 151 males (374 the previous week) caught in 30 sex traps. (Wong, Sept. 10).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - COLORADO - Continued to be taken in bait traps in Mesa County as of September 11. Up to 51 per 5 traps during August but ranged 1-15 per 5 traps per day in most orchards. Few larvae in apple and pear fruit; harvest nearly complete. (Bulla). INDIANA - Fourth flight continuing at Vincennes; 501 adults (461 last week) in bait jars. (Wong, Sept. 10).

RED-HUMPED CATERPILLAR (Schizura concinna) - COLORADO - Larvae on flowering crab apple in Fort Collins, Larimer County. This is a new county record. (Thatcher, Aug. 23).

LESSER PEACH TREE BORER (Synanthedon pictipes) - INDIANA - Adult captures at Vincennes similar to previous week with 266 males. (Wong, Sept. 10).

APPLE MAGGOT (Rhagoletis pomonella) - INDIANA - Caught 85 adults on stickyboards at Vincennes. (Wong, Sept. 10). WISCONSIN - Damage heavy in poorly treated apples. Adults continue active but most of danger past. Highest collection (33) August 27 to September 10 at Baraboo, Sauk County. (Wis. Ins. Sur.).

WALNUT HUSK FLY (Rhagoletis completa) - OREGON - Larvae light at Oakland and Yoncalla, Douglas County; adults active at Roseburg, Douglas County, and Medford, Jackson County. (Larson). Adult trapped at Newberg, Yamhill County, by N.H.

Anderson. This is a new county record. (Westcott). UTAH - Infested ripening late peaches in several Salt Lake County home orchards. Similar peach infestations occurred in Weber and Box Elder Counties in past years. (Knowlton, Sept. 13).

A TEPHRITID FLY (Rhagoletis suavis) - NEW YORK - Infested 2 commercial peach orchards at Bells Pond and Viewmonte, Columbia County, in early September. Adults numerous on few trees in Bells Pond orchard September 10; fewer numbers throughout remainder of block. No adults found in Viewmonte orchard sprayed previous evening. Egg punctures ranged 1-11 per fruit and eggs averaged 17 per puncture. Infested most fruits checked. (Dean).

SAN JOSE SCALE (Aspidiotus perniciosus) - OREGON - Crawlers noticed since May at Medford, Jackson County. First noted in 1967 in December. First time crawlers observed for such an extended period in this area. (Gentner).

TWO-SPOTTED SPIDER MITE (Tetranychus urticae) - COLORADO - Active in all pear and apple areas up to September; foliage "burn" evident in many orchards. High overwintering numbers around trunks of trees. (Bulla).

ERIOPHYID MITES - OREGON - Some Epitrimerus pyri damage to pears appearing at Medford, Jackson County. (Berry). UTAH - Eriophyes pyri very heavy on Fameuse apples at Wellsville, Cache County. (Knowlton, Sept. 10).

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - Developing larvae in shucks of pecans plus effects of dry weather and aphid leaf damage continue to cause "nut drop" in orchards in southern and central areas. (Turner et al.).

FALL WEBWORM (Hyphantria cunea) - ALABAMA - Webbing and leaf feeding heavy on Covington County pecan trees; widespread in Baldwin County. (Linder et al.).

BLACK PECAN APHID (Myzocallis caryaefoliae) - ALABAMA - This and yellow aphids built up to troublesome populations in many untreated pecan orchards in Dallas, Macon, Barbour, Henry, and Covington Counties. (Alsobrook et al.).

PECAN LEAF PHYLLOXERA (Phylloxera notabilis) - ALABAMA - Heavy on leaves of about half of 20-acre Baldwin County pecan orchard. (Leeper et al.).

CITRUS

FALSE SPIDER MITES (Brevipalpus spp.) - FLORIDA - "An 18-year survey of Brevipalpus mites on citrus was analyzed to account for the almost complete disappearance in Florida of leprosis (nailhead rust, Florida scaly bark). B. californicus (Banks), the mite responsible for leprosis in Florida, was found occasionally on citrus in various parts of the State, but only in Volusia County and in Sumter County was it accompanied by leprosis. B. obovatus Donnadieu, the cause of leprosis in South America, was encountered twice on citrus (a new host record for the State), but symptoms of leprosis were not in evidence. In caged experiments, however, B. obovatus did produce leprosis. B. phoenicis (Geijskes) was found on citrus throughout the State, often in large numbers, but no economic consequences attended infestations. A description is given of 'false leprosis,' a disorder of unknown etiology that is often mistaken for leprosis." (Knorr, Denmark, Burnett). This is the abstract for the paper "Occurrence of Brevipalpus Mites, Leprosis, and False Leprosis in Florida."* (PPC).

*Knorr, L.C., Denmark, H.A., and Burnett, H.C., 1968. Fla. Ent. 51(1):11-17.

Citrus Insect Situation in Florida - End of August - CITRUS RUST MITE (Phyllocoptura oleivora) infested 52 percent of groves (norm 50 percent); 41 percent economic (norm 31 percent). Population dropped out of high range for first time since September 1967. Further decrease to normal low level for September expected. Heavier on fruit than on leaves. About 20 percent of groves in all districts will harbor heavy infestations. Highest districts west, central, and south. High on fruit but not on leaves in east district. TEXAS CITRUS MITE (Eutetranychus banksi) infested 23 percent of groves (norm 23 percent); 7 percent economic (norm 9 percent). Below normal and in very low range. Further decrease expected. Highest district west. CITRUS RED MITE (Panonychus citri) infested 32 percent of groves (norm 27 percent); 7 percent economic (norm 13 percent). Near normal low level for time of year. Some further decrease expected. Few scattered groves will develop moderate to heavy infestations. Highest district west. GLOVER SCALE (Lepidosaphes gloverii) infested 43 percent of groves (norm 44 percent); less than 1 percent economic (norm 10 percent). PURPLE SCALE (L. beckii) infested 32 percent of groves (norm 46 percent); less than 1 percent economic (norm 2 percent). CHAFF SCALE (Parlatoria pergandii) infested 19 percent of groves (norm 37 percent); less than 1 percent economic (norm 4 percent). YELLOW SCALE (Aonidiella citrina) infested 27 percent of groves (norm 48 percent); less than 1 percent economic (norm 8 percent). An ARMORED SCALE (Unaspis citri) infested 14 percent of groves; 1 percent economic. Except for U. citri, all preceeding scales below normal and in moderate or low range in all districts. Slight decrease expected. U. citri expected to increase. MEALYBUGS infested 57 percent of groves; 8 percent economic. Above normal for time of year, but infestations mostly light and decreasing. WHITEFLIES infested 38 percent of groves; 18 percent economic. Near normal and in low range. Adults will be more numerous but not of much importance at this time. (W.A. Simanton (Citrus Expt. Sta., Lake Alfred)).

ORANGE-DOG (Papilio cresphontes) - ARIZONA - Heavy feeding on terminal growth in citrus nurseries at Yuma, Yuma County. Control being applied. Much feeding injury to home citrus trees in Maricopa County. (Ariz. Coop. Sur.).

A LEAF ROLLER MOTH (Platynota stultana) - ARIZONA - Treatments in progress in nurseries and young groves at Yuma, Yuma County. (Ariz. Coop. Sur.).

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - Many trees damaged in Salt River Valley. Damaged new growth in nurseries at Yuma, Yuma County. (Ariz. Coop. Sur.).

CITRUS RED MITE (Panonychus citri) - CALIFORNIA - Heavy on citrus in Mill Valley and San Rafael, Marin County. (Cal. Coop. Rpt.).

OTHER TROP. & SUBTROP. FRUITS

CORN SAP BEETLE (Carpophilus dimidiatus) - ARIZONA - Damaging many ripening figs in home plantings in Salt River Valley, Maricopa County. (Ariz. Coop. Sur.).

OLIVE SCALE (Parlatoria oleae) - CALIFORNIA - Medium on olive trees at Olivehurst, Yuba County. (Cal. Coop. Rpt.).

ORNAMENTALS

A JAPANESE WEEVIL (Pseudocneorhinus bifasciatus) - INDIANA - Adults common and damaging foliage of mockorange, privet, rose, spirea, and weigela shrubs in yard at Vincennes, Knox County, June 26, 1968. Collected by R.E. Dolphin. Det. by R.E. Warner. This is a new State record. (Dolphin).

A WEEVIL (Brachyrhinus cribricollis) - ARIZONA - Heavy in many privet, pyracantha, and chrysanthemum plantings at Tucson, Pima County. (Ariz. Coop. Sur.).

A PTEROPHORID MOTH (Platyptilia antirrhina) - OREGON - All instars infested 90+ percent of plants in greenhouse planting of snapdragons at Hillsboro, Washington County. (Hemmerling, Westcott). Collected by J.E. Davis from Yachats, Lincoln County, in July 1947; adults reared by F.P. Larson from snapdragons at Salem, Marion County, in 1949. Probably widespread in this area, but of relatively sporadic economic importance. (Westcott).

NOCTUID MOTHS (Heliothis spp.) - ALABAMA - Larvae destroying rosebuds in central and southern areas. Flight heavy recently. Available food low; selecting less desirable food plants for egg laying. (Hagler et al.).

EUROPEAN EARWIG (Forficula auricularia) - UTAH - Injury to lilac foliage and to some flowering plants serious in some Logan, Cache County, and Salt Lake City home gardens. (Knowlton, Sept. 10).

CRICKETS - ALABAMA - Several species feeding on and destroying ornamental value of many early opening camellia flowers in Mobile County. (Seibels).

SPIDER MITES (Tetranychus spp.) - OREGON - Building up to economic levels on various evergreens in several Salem area nurseries in Marion County. (Wheeler).

FOREST AND SHADE TREES

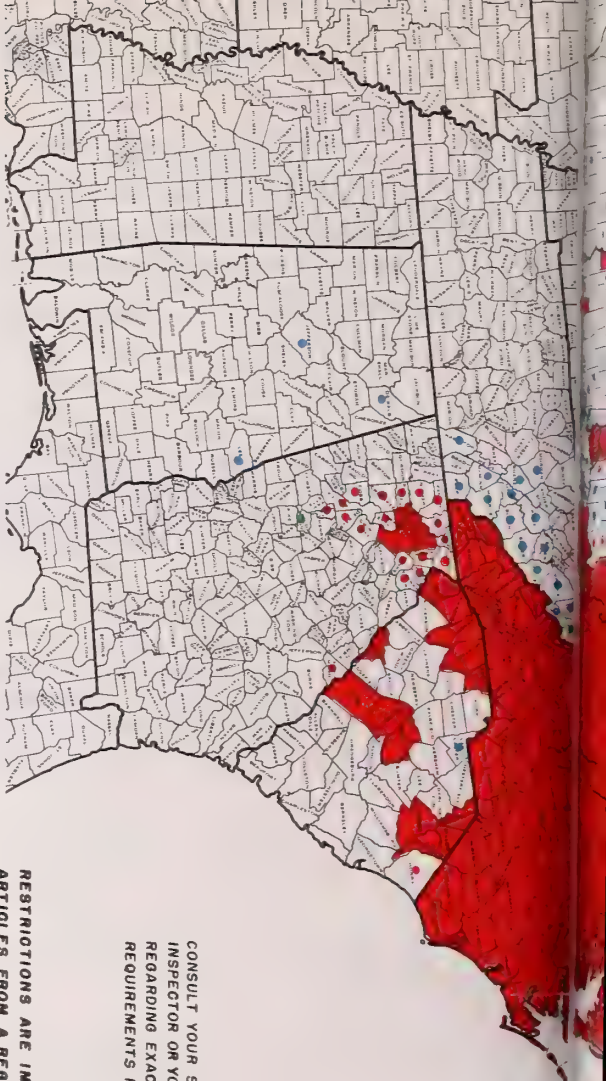
SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - MINNESOTA - Surveys past several weeks in counties adjacent to known infested areas showed no further spread. (Minn. Ins. Rpt.).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - OKLAHOMA - Larvae and pupae heavy in Payne County pine plantation. (Okla. Coop. Sur.).

PINE BUTTERFLY (Neophasia menapia) - OREGON - Adults abundant on west side of Santiam Pass, Linn County, down to elevation of approximately 3,500 feet. Most specimens worn, indicating flight peaked probably during mid-August. Usually most destructive to ponderosa pine but no ponderosa pine in area examined. (Westcott).

PALMERWORM (Dichomeris ligulella) - OHIO - Aerial survey in August over 3.5 million acres of private land and State forests and parks. Heavy defoliation in Mohican and Brush Creek State Forests, on private land in east-central counties, and near Otway in Scioto County. (Seine).

**Exempt if not exposed to infestation after cleaning or other prescribed handling.



COUNTIES ENTIRELY COLORED ARE COMPLETELY REGULATED; COUNTIES WITH COLORED DOT ARE PARTIALLY REGULATED.

GENERALLY INFESTED AREA - STATE AND FEDERAL REGULATIONS.
(ERADICATION TREATMENTS NOT IN PROGRESS OR PLANNED)

SUPPRESSIVE AREA - STATE AND FEDERAL REGULATIONS.
(SUPPRESSIVE TREATMENTS IN PROGRESS OR PLANNED)

STATE REGULATIONS ONLY. (SUPPRESSIVE TREATMENTS
IN PROGRESS OR PLANNED)

SEE REVERSE SIDE FOR REQUIREMENTS CONCERNING CERTIFICATION OF REGULATED ARTICLES

Revised July 22, 1968.

CONSULT YOUR STATE OR FEDERAL PEST CONTROL
INSPECTOR OR YOUR COUNTY AGENT FOR ASSISTANCE
REGARDING EXACT AREAS UNDER REGULATION AND
REQUIREMENTS FOR MOVING REGULATED ARTICLES.

RESTRICTIONS ARE IMPOSED ON MOVEMENT OF REGULATED
ARTICLES FROM A REGULATED AREA AS FOLLOWS.

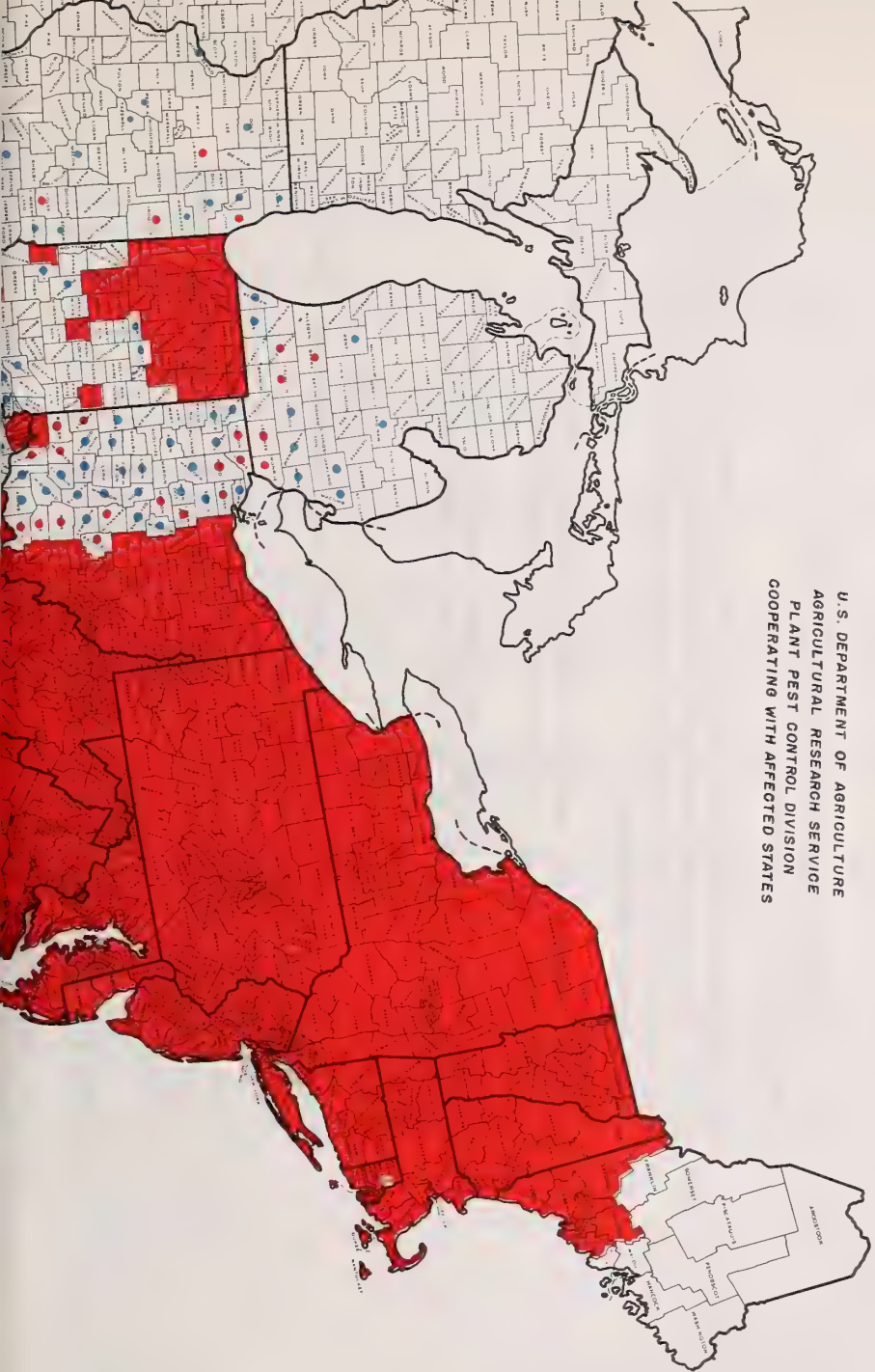
1. FROM RED INTO OR THROUGH GREEN, BLUE, OR WHITE.
2. FROM GREEN INTO OR THROUGH WHITE OR BLUE.
3. GREEN INTO GREEN
4. WITHIN GREEN.*
5. FROM BLUE INTO ANY OTHER AREA.**

* IF REQUIRED BY AN AUTHORIZED INSPECTOR.

** IF REQUIRED BY APPROPRIATE STATE QUARANTINE
OR BY AN AUTHORIZED INSPECTOR.

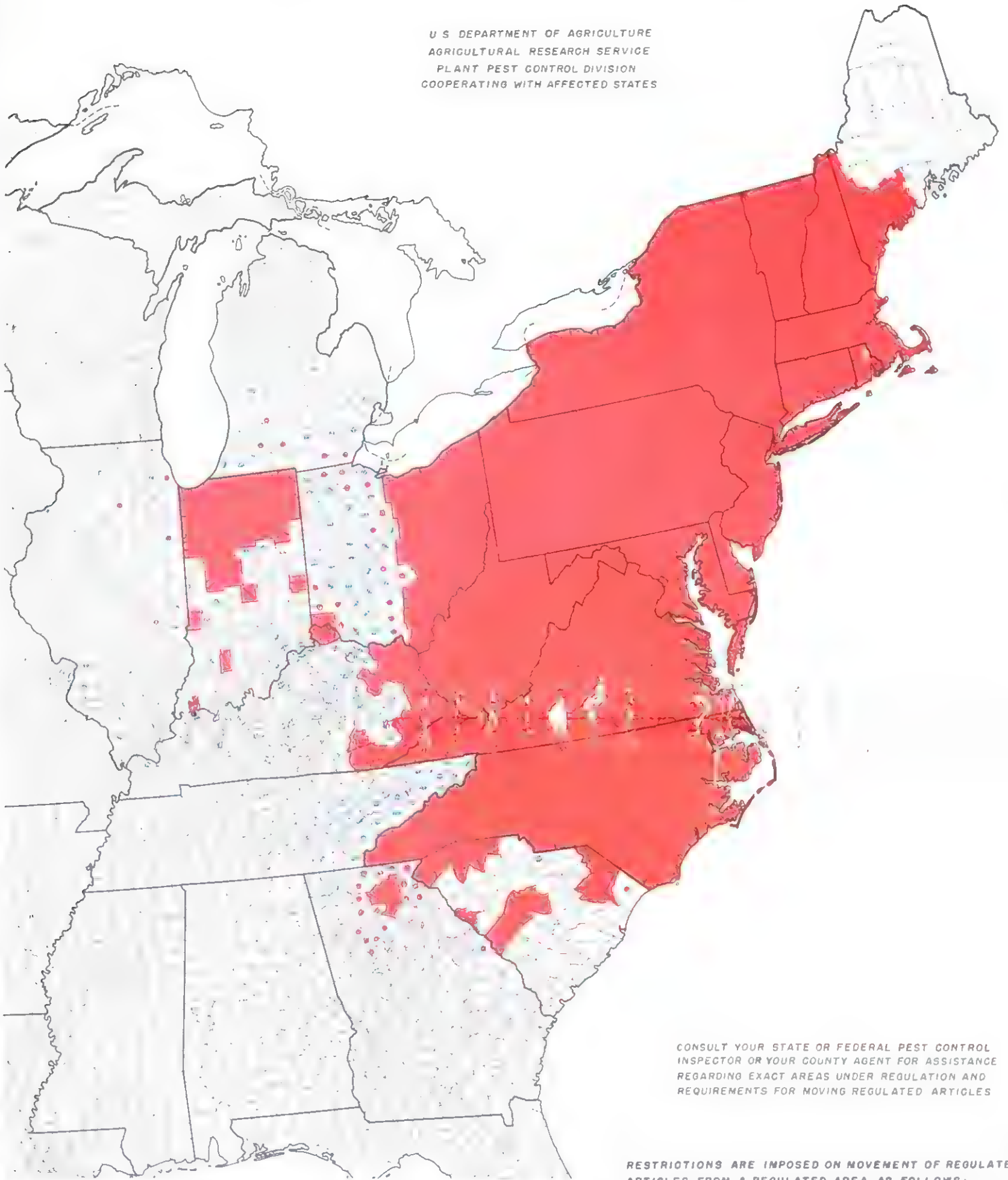
JAPANESE BEETLE QUARANTINE

U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
COOPERATING WITH AFFECTED STATES



JAPANESE BEETLE QUARANTINE

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- STATE REGULATIONS ONLY (SUPPRESSIVE TREATMENTS IN PROGRESS OR PLANNED)

CONSULT YOUR STATE OR FEDERAL PEST CONTROL INSPECTOR OR YOUR COUNTY AGENT FOR ASSISTANCE REGARDING EXACT AREAS UNDER REGULATION AND REQUIREMENTS FOR MOVING REGULATED ARTICLES

RESTRICTIONS ARE IMPOSED ON MOVEMENT OF REGULATED ARTICLES FROM A REGULATED AREA AS FOLLOWS:

1. FROM RED INTO OR THROUGH GREEN, BLUE, OR WHITE.
2. FROM GREEN INTO OR THROUGH WHITE OR BLUE.
3. GREEN INTO GREEN
4. WITHIN GREEN.*
5. FROM BLUE INTO ANY OTHER AREA.**

* IF REQUIRED BY AN AUTHORIZED INSPECTOR

** IF REQUIRED BY APPROPRIATE STATE QUARANTINE OR BY AN AUTHORIZED INSPECTOR.

THE FOLLOWING CROPS OR ARTICLES MUST BE MOVED UNDER CERTIFICATE OR PERMIT YEAR-ROUND EXCEPT AS INDICATED:

1. Soil, compost, decomposed manure, humus, muck, and peat, separately or with other things.

Soil samples of any size shipped to U.S. Army Corps of Engineers Soil Laboratories within the conterminous U.S. are exempt. Soil samples of one pound or less are exempt if shipped to a designated laboratory.*

Compost, decomposed manure, humus, and peat are exempt** if dehydrated, ground, pulverized, or compressed.

2. Plants with roots, except soil-free aquatic plants, moss, and Lycopodium (clubmoss or ground-pine or running pine).
3. Grass sod.
4. True bulbs, corms, rhizomes, and tubers of ornamental plants when freshly harvested or uncured.

True bulbs, corms, rhizomes, and tubers (other than clumps of dahlia tubers) of ornamental plants are exempt** if free of soil.

5. Plant crowns and roots for propagation.
6. Used mechanized soil-moving equipment.

Used mechanized soil-moving equipment is exempt** if cleaned and repainted.

*Information as to designated laboratories may be obtained from an inspector.

**Exempt if not exposed to infestation after cleaning or other prescribed handling.

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Used mechanized soil-moving equipment is exempt** if cleaned

FALL WEBWORM (Hyphantria cunea) - OHIO - Defoliation continues on various deciduous trees throughout most of eastern half of State. Larvae nearly full grown in most cases; feeding damage should soon level off. (Rose).

MIMOSA WEBWORM (Homadula anisocentra) - OKLAHOMA - Leaf damage averaged 5 percent on mimosa in southwest Oklahoma City, Oklahoma County. This is a new county record. Continues heavy on mimosa in Mayes County. (Okla. Coop. Sur.).

AN AGERIID MOTH (Aegeria tibialis) - CALIFORNIA - Larvae and adults heavy on poplar trees at Dixon, Solano County. This species uncommon but noted in several locations in 1968. (Cal. Coop. Rpt.).

BOXELDER PSYLLID (Psylla negundinis) - MARYLAND - Collected on boxelder at Chevy Chase, Montgomery County, April 29, 1968, by C.W. McComb. Det. by L.M. Russell. This is a new State record. (U. Md., Ent. Dept.).

ELM LEAF BEETLE (Pyrrhalta luteola) - GEORGIA - Larvae numerous on Spalding County elms. (Tippins). OKLAHOMA - Defoliated 33-50 percent of few American elms in Major County. Pupation of third generation beginning in Payne County. Damaged up to 95 percent of Siberian elms in Ellis County. Continues heavy in Mayes County. (Okla. Coop. Sur.). COLORADO - Larvae damaging elm at Lafayette, Boulder County. (Hantsbarger).

A COREID BUG (Leptocoris rubrolineatus) - OREGON - Nymphs and adults extremely abundant, mostly on maple, at Medford, Jackson County; believed causing some damage to pear fruits. (Berry).

CICADAS - ALABAMA - Very heavy emergence of several species at Semmes, Mobile County. Numbers much heavier in southern Mobile and Baldwin Counties than in other areas. (Seibels et al.).

MAN AND ANIMALS

MOSQUITOES - TEXAS - Culex pipiens quinquefasciatus occurred throughout Jefferson County during August. C. salinarius peaked at 182 per trap night in early August at Pleasure Island; few to moderate rest of month. Aedes sollicitans moderate at Port Arthur first week of August; uncommon in rest of county. Psorophora ciliata noted only in north Beaumont area. P. confinnis occurred throughout county; annoying in midcounty area for short period; reached 200 per trap night August 21 in north Beaumont area. Mansonia perturbans taken regularly in Pleasure Island light trap; occasionally in 2 Beaumont light traps and airport light trap. Uranotaenia lowii generally more numerous than U. sapphirina. (Jefferson Co. Mosq. Control Dist.). FLORIDA - Mosquitoes more abundant than usual; very annoying to field workers during summer at Sanford, Seminole County. (Greene). Mostly P. confinnis abundant and annoying cattle in Everglades area. (Janes). MICHIGAN - Mosquitoes still abundant in certain areas; recent cool weather helped to abate much of nuisance. (Shinkle, Sept. 9). MINNESOTA - Aedes vexans comprised 73 percent of 5,043 females in 16 light traps August 31 to September 6. A. vexans accounted for over 85 percent of catch in daytime and evening bite collections. September rains produced very limited brood in runoff areas. Light trap catches for September 7-13 very low due to cold nights and aging population. Egg samples September 10 showed 34 (previous week 60) percent hatch. Nearly 100 percent diapause expected in another 7 to 14 days. (Minn. Ins. Rpt.).

SCREW-WORM (Cochliomyia hominivorax) - Total of 295 cases reported in U.S. September 2-14 as follows: TEXAS - Andrews 1, Atascosa 4, Austin 1, Bee 3, Bexar 1, Brewster 12, Brooks 14, Crockett 19, Coke 2, Culberson 1, De Witt 2, Edwards 7, Goliad 1, Gillespie 1, Glasscock 1, Gonzales 1, Hidalgo 5, Irion 1, Jeff Davis 16, Jim Hogg 3, Jim Wells 4, Karnes 1, Kimble 5, Kenedy 6, Kendall 1, Kinney 1, Mason 2, Maverick 1, McCulloch 1, Nueces 1, Pecos 45, Presidio 1, Refugio 2, Real 1, Reeves 3, Starr 5, Sutton 2, San Patricio 1, Terrell 46, Val Verde 42, Victoria 1, Ward 1, Willacy 1; ARIZONA - Cochise 2, Gila 1, Graham 3, Greenlee 1, Pima 2, Pinal 1, Santa Cruz 1, Yavapai 4; NEW MEXICO - Eddy 1, Grant 5; CALIFORNIA - San Diego 4. Total of 486 cases reported in portion of

Barrier Zone in Republic of Mexico September 8-14 as follows: Territorio sur de Baja California 71, Sonora 90, Chihuahua 133, Coahuila 146, Nuevo Leon 31, and Tamaulipas 15. Total of 54 cases reported in Mexico south of Barrier Zone. Barrier Zone is area where eradication operation underway to prevent establishment of self-sustaining population in U.S. Sterile screw-worm flies released: Texas 102,418,000; New Mexico 4,550,000; Arizona 10,710,000; California 900,000; Mexico 72,970,000. (Anim. Health Div.).

HORN FLY (*Haematobia irritans*) - FLORIDA - Heavy, 600 per head on cattle at Belle Glade, Palm Beach County. (Janes). OKLAHOMA - Counts per head averaged 400 on cattle in Major County and ranged 225-300 in Payne and Noble Counties. Moderate to heavy in Garvin, Marshall, Cleveland, and Mayes Counties. (Okla. Coop. Sur.). ILLINOIS - Average per head by district: Southeast 200, southwest 117, and northeast 66. (Ill. Ins. Rpt.). MICHIGAN - Numerous on beef cattle at Lake City, Missaukee County. Averaged as high as 200 adults per head with high of over 400. (Janes, Sept. 9). NEBRASKA - Up to 500 per side on bull herd in Franklin County. Averaged 20-30 per side on pastured calves in Jefferson County. (Roselle). SOUTH DAKOTA - High on untreated cattle in Sully and Potter Counties; ranged 700-1,000+ per side on bulls and 200-400 per side on cows. (Jones). UTAH - Annoyance still conspicuous in untreated herds in Box Elder, Davis, Weber, and Cache Counties. (Knowlton, Sept. 13).

FACE FLY (*Musca autumnalis*) - NEVADA - Entering hibernation in north-central Elko County. Light to medium during summer; pinkeye light. (Wilson). UTAH - Annoyance to horses and cattle still conspicuous in Cache, Box Elder, Weber, and Davis Counties. (Knowlton, Sept. 13). NEBRASKA - Averaged 6 per face on bull herd in Franklin County. Averaged 12-14 per face on pastured calves in Jefferson County. (Roselle). SOUTH DAKOTA - Less than 2 per face on small Angus herd north of Gettysburg, Potter County. (Jones). ILLINOIS - Averaged per face by district: Southeast 13, southwest 31, and northeast 6. (Ill. Ins. Rpt.).

HOUSE FLY (*Musca domestica*) - OKLAHOMA - Averaged 5 per scudder grid in untreated Payne County barns. Moderate in Choctaw County homes. (Okla. Coop. Sur.). NEBRASKA - Averaged 9-10 per scudder grid in 3 Lancaster County feedlots. (Campbell). ILLINOIS - Heavy migration into houses and livestock barns due to cool weather past week. (Ill. Ins. Rpt.). MICHIGAN - Moderate in and around handling pens, barns, sheds, and feedlots in central and southern areas. (Janes, Sept. 9). MINNESOTA - Very heavy on farms where little or no sanitation practiced. (Minn. Ins. Rpt.).

STABLE FLY (*Stomoxys calcitrans*) - OKLAHOMA - Ranged 7-8 per head on Noble and Payne County cattle. (Okla. Coop. Sur.). NEBRASKA - Averaged 10-15 per leg on 3 Lancaster County feedlot herds. (Campbell). ILLINOIS - Averaged per head by district: Southeast 4, southwest 32, and northeast 0. (Ill. Ins. Rpt.). MICHIGAN - Moderate in and around handling pens, barns, sheds, and feedlots in central and southern areas. (Janes, Sept. 9).

HORSE FLIES (*Tabanus* spp.) - OKLAHOMA - Moderate on cattle in Choctaw County. *T. atratus* and *T. sulcifrons* averaged 5 per 10 head and *T. lineola* complex 1.5 per head on Payne and Noble County cattle. (Okla. Coop. Sur.).

LONE STAR TICK (*Amblyomma americanum*) - OKLAHOMA - Moderate on Choctaw County cattle. (Okla. Coop. Sur.).

STORED PRODUCTS

INDIAN-MEAL MOTH (*Plodia interpunctella*) - MISSOURI - Heavy in some stored corn, wheat, and soybeans on farms in Audrain, Lafayette, Putnam, Ralls, and Saline Counties. (Munson).

GRAIN MITE (*Acarus siro*) - NORTH DAKOTA - Heavy in stored wheat in McHenry County; controls applied. (McBride).

BENEFICIAL INSECTS

LADY BEETLES - WYOMING - Adults and larvae 11-800 per 100 sweeps on alfalfa in Platte, Goshen, and Laramie Counties. (Parshall).

DAMSEL BUGS (Nabis spp.) - WYOMING - Adults and nymphs 16-300 per 100 sweeps on alfalfa in Platte, Goshen, and Laramie Counties. (Parshall).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GRASSHOPPERS - IOWA - Melanoplus femurrubrum dominant in 9 south-central and south-west counties surveyed this week; counts were light and threatening. (Iowa Ins. Sur., Sept. 6). SOUTH DAKOTA - Adults light, less than 7 per square yard, in fields in Clark, Deuel, Grant, northern Codington, and southern and western Roberts Counties. M. femurrubrum and M. bivittatus major species. Development ranged fourth instar to adult with 80 percent in adult stage. (Jones).

JAPANESE BEETLE (Popillia japonica) - OHIO - Quarantine regulated area extended to Erie and Huron Counties and part of Sandusky County; regulated area expanded in Fairfield, Franklin, Hocking, Richland, and Ross Counties. (Rose).

MORMON CRICKET (Anabrus simplex) - UTAH - Adults collected 15 miles southwest of Randolph, Rich County, by G. Sayer. Det. by H.F. Thornley. Appearance unusually late for season. (Knowlton, Sept. 13).

PINK BOLLWORM (Pectinophora gossypiella) - CALIFORNIA - Kern County: Released 388,850 sterile moths; recovered 3 sterile moths in sex lure traps. San Diego County: Released 6,000 sterile moths in 5-acre cotton planting in Borrego Valley, recovered 4; infestations 18 percent. San Joaquin Valley: Survey continues negative. Imperial County: Infestations averaged 15-20 percent in desert cotton in Imperial Valley; decreased to near 9 percent in Bard Valley. Riverside County: Infestations averaged about 20 percent in Coachella and Palo Verde Valleys. (Cal. Coop. Rpt.). NEVADA - One male in sex lure trap in hollyhock September 3; trapped 6 males September 6 and 2 males September 9 in sex lure traps in cotton in Moapa Valley, Clark County. (Yamashita). ARIZONA - Heaviest larval count in lint cleaners at Texas Hill, Yuma County. (Ariz. Coop. Sur.). NEW MEXICO - Based on 25-boll samples, green-boll infestations ranged 0-8 percent in 6 cotton fields in southern Dona Ana County. No increase over previous week. (Campbell).

WESTERN GRAPE LEAF SKELETONIZER (Harrisina brillians) - CALIFORNIA - New infestation discovered at Clovis, Fresno County. Delimiting survey involved 13 properties on 9 blocks in one-mile area in center of Clovis. Heaviest damage centered on 3 properties surrounding original infestation. First to fifth instars present but no moths. All properties treated in known infested area. (Cal. Coop. Rpt.).

WHITE-FRINGED BEETLES (Graphognathus spp.) - LOUISIANA - G. leucoloma striatus collected in Terrebonne Parish August 29 for a new parish record. SOUTH CAROLINA - G. leucoloma fecundus collected in Greenwood County August 26 for a new county record. (PPC).

INSECT DETECTION

New State Records

A NOCTUID MOTH (Agriopodes fallax) - DELAWARE - Adult in blacklight trap at Bridgeville, Sussex County. Collected by P.P. Burbutis June 24, 1968. Det. by D.F. Bray. Recorded (Forbes, 1954) as feeding on Viburnum sp. (Burbutis).

A JAPANESE WEEVIL (Pseudocneorhinus bifasciatus) - INDIANA - Adults on mockorange, privet, rose, spirea, and weigela at Vincennes, Knox County, June 26, 1968. Collected by R.E. Dolphin. Det. by R.E. Warner. (p. 904).

BOXELDER PSYLLID (Psylla negundinis) - MARYLAND - Collected on boxelder at Chevy Chase, Montgomery County, April 29, 1968, by C.W. McComb. Det. by L.M. Russell. (p. 905).

New County, Parish, and Island Records

SPOTTED ALFALFA APHID (Therioaphis maculata) - SOUTH DAKOTA - Day, Grant, and Roberts Counties. (p. 895).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - ILLINOIS - Putnam, Marshall, Kendall, Kane, Boone, McHenry, Tazewell, Schuyler, Cass, and Pike Counties. SOUTH DAKOTA - Campbell County. (p. 896).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - KANSAS - Jewell and Republic Counties. (p. 896).

RED-HUMPED CATERPILLAR (Schizura concinna) - COLORADO - Larimer County. (p. 901).

WALNUT HUSK FLY (Rhagoletis completa) - OREGON - Yamhill County. (p. 901-902).

MIMOSA WEBWORM (Homadaula anisocentra) - OKLAHOMA - Oklahoma County. (p. 905).

WHITE-FRINGED BEETLES (Graphognathus spp.) - LOUISIANA - G. leucoloma striatus in Terrebonne Parish. SOUTH CAROLINA - G. leucoloma fecundus in Greenwood County. (p. 907).

BEAN FLY (Melanagromyza phaseoli) - HAWAII - Maui Island. (p. 909).

CORRECTIONS

CEIR 18(16):313 - PINE SAWFLIES (Neodiprion spp.) - ARKANSAS - Change N. taedae linearis to N. lecontei. Det. by L.O. Warren. (Boyer).

CEIR 18(30):701 - APHIDS - NEW JERSEY - Pemphigus bursarius should read Pemphigus sp. Det. by C.F. Smith. (Race).

HAWAII INSECT REPORT

Turf, Pasture - A GRASS WEBWORM (Herpetogramma licarsisalis) continued moderate to heavy on Hilo, carpet, and Kikuyu grasses at Hilo and Kona, Hawaii Island. Parasitism by Trichogramma semifumatum (a minute egg parasite) averaged 91.6 percent at 9 localities. (Yoshioka).

General Vegetables - BEAN FLY (Melanagromyza phaseoli) reported for first time on Maui; completely destroyed 2,000 square feet of new snap bean planting at Lahaina-luna; larvae heavily infested stems. All stages heavy on lima, yard-long, and lablab beans at Honolulu International Airport and on snap beans at Waimanalo, Oahu. (Miyahira et al.).

Fruits - Nymphs and one adult of SOUTHERN GREEN STINK BUG (Nezara viridula) feeding on papaya tree trunks at Pohoiki and Puna, Hawaii Island. (Davis et al.).

Ornamentals - KOU LEAFWORM (Ethmia nigroapicella) completely defoliated kou trees (Cordia subcordata) at Kailua and Kona, Hawaii Island. Normally active near end and/or beginning of year, but noted in this area throughout year. (Yoshioka).

Man and Animals - HORN FLY (Haematobia irritans) adults heavy on cattle in Auwahi, Maui, at 1,000 feet elevation. (Armitage, Miyahira).

Beneficial Insects - Activity of a TORTRICID MOTH (Apotoforma sp.) conspicuous on blackberry plants in Volcano area, Hawaii Island. Damage heaviest on terminal shoots. MELASTOMA BORER (Selca brunella) numerous on glory-bush (Tibouchina semidecandra) at Mountain View, Hawaii Island. Activity most noticeable on terminal shoots and fruits. (Yoshioka).

Miscellaneous - Nymphs and adults of a GRASSHOPPER (Oedaleus abruptus) light on dry grass at Hickam Air Force Base at Honolulu, Oahu. Spread from untreated 10-acre spot inside initially treated area; controls applied to this spot September 7. Re-treatment of general area begun second week of September. No spread observed beyond boundaries of initially treated area. (Olson).

Weather continued from page 894.

TEMPERATURE: Cold, dry air, moving in behind the frontal system that crossed the eastern portion of the Country the first three days of the period, reduced minimum temperatures to record low levels (40's and 50's) for the 10th and 11th in portions of the lower Mississippi Valley. Fair, sunny weather with warm days and cool nights was the rule the rest of the week. The western half of the Nation was abnormally warm with maxima in the 90's in the northern Great Plains and exceeding 110° in the southwestern desert. During the weekend cooler air covered the Western States and frost was reported in the higher mountains as far south as Arizona.

VIOLENT WEATHER: Frontal thunderstorms caused damage in scattered areas of the East early in the period. Tornadoes were reported at Cedar Springs, Michigan, and ten miles north of Toledo, Ohio, on the 9th, and seven miles southwest of Lake Charles, Louisiana, and 10 miles north of Winner, South Dakota, on the 14, with damage limited to some farm buildings. High winds downed a 220-foot radio tower at Beaumont, Texas, on the 15th. (Summary supplied by Environmental Data Service, ESSA.)

LIGHT TRAP COLLECTIONS

Locality	Temp- ature (°F)	Precip- itation (inches)	Type of trap	Crops																			
				Agrotis cylindrica	Agrotis cylindrica	Agrotis cylindrica	Agrotis cylindrica	Agrotis cylindrica	Agrotis cylindrica	Agrotis cylindrica	Agrotis cylindrica	Agrotis cylindrica	Agrotis cylindrica	Agrotis cylindrica	Agrotis cylindrica	Agrotis cylindrica	Agrotis cylindrica	Agrotis cylindrica	Agrotis cylindrica	Agrotis cylindrica	Agrotis cylindrica	Agrotis cylindrica	Agrotis cylindrica
FLORIDA Gainesville 9/10			BL																				
KANSAS Garden City 9/7-9, 11			BL	491																			
MISSISSIPPI Stoneville 9/7-13	54-86	1.25	2BL	11																			
MISSOURI Portageville 9/7-13																							
NEW JERSEY Aurora 9/4-11			BL	12																			
Evesboro 9/4-11			BL	8																			
Plainsboro 9/4-11			BL	8																			
Seabrook 9/4-11			BL	34																			
OHIO Hilliard 9/5-11			BL	15																			
Wooster 9/5-11			BL	27																			
TEXAS Waco 9/7-13			BL	24																			
WISCONSIN Madison 9/5-12			BL	8																			

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Part X

Additional copies of Parts I through X of this bibliography are available from Survey and Detection Operations.

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